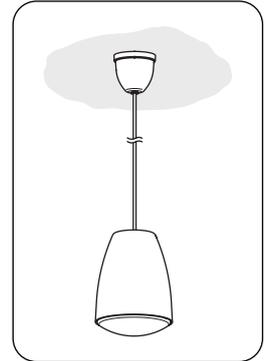


# PENDANT SPEAKER

# PE-154EN



Thank you for purchasing TOA's Pendant Speaker.  
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

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## 1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

### **WARNING**

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

#### When Installing the Unit

- Refer all installation work to the dealer from whom the speaker was purchased. Installation work requires extensive technical knowledge and experience. The speaker may fall off if incorrectly installed, resulting in possible personal injury.
- Install the speaker only in a location that can structurally support the full weight of the unit and mounting bracket. Doing otherwise may result in the speaker falling down and causing personal injury and/or property damage.
- Since the unit is designed for in-door use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of electric shock.
- Do not use other methods than specified to install the speaker. Extreme force is applied to the speaker and the speaker could fall off, possibly resulting in personal injuries.
- Use screws that are appropriate for the ceiling's material and structure. Failure to do so may cause the speaker to fall, resulting in material damage and possible personal injury.
- Ensure that all screws are securely tightened. If they are loose after installation, the speaker could fall down, possibly resulting in personal injury.

#### Traceability Information for Europe (EMC directive 2004/108/EC)

Manufacturer:  
TOA Corporation  
7-2-1, Minatojima Nakamachi, Chuo-ku, Kobe, Hyogo,  
Japan

Authorized representative:  
TOA Electronics Europe GmbH  
Suederstrasse 282, 20537 Hamburg,  
Germany

- Do not mount the speaker in locations exposed to constant vibration. The speaker or its mounts can be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.
- Do not use anti-rust lubricant. If it contacts resin or rubber parts, they could deteriorate and cause the speaker to fall, possibly resulting in personal injury.
- Do not install the speaker in indoor swimming pools or such locations where liquid chemicals are used. The parts deteriorate if corroded, causing the speaker to fall, which could result in personal injury.

**⚠ CAUTION**

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

**When the Unit is in Use**

- If any of the following irregularities occurs, immediately switch off the amplifier's power, and inform the shop from where the speaker was purchased. Further using the speaker may result in fire or electric shock.
  - If you detect smoke or a strange smell coming from the speaker
  - If water or any metallic object gets into the speaker
  - If the speaker falls, or the speaker case breaks
- To prevent a fire or electric shock, never open nor remove the speaker case. Refer all servicing to your nearest TOA dealer.

**When Installing the Unit**

- Avoid touching the speaker's sharp metal edge to prevent injury.
- To avoid electric shocks, be sure to switch off the amplifier's power when connecting speakers.

**When the Unit is in Use**

- Do not operate the speaker for an extended period of time with the sound distorting. Doing so may cause the speaker to heat, resulting in a fire.
- Do not stand or sit on, nor hang down from the speaker as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the speaker checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the speaker or the mounts that could cause it to fall, possibly causing personal injury.

**2. GENERAL DESCRIPTION AND FEATURES**

The PE-154EN is certified according to the European Standard EN 54-24: 2008 and the International Standard ISO 7240-24: 2010.

The PE-154EN is a pendant speaker designed for ceiling suspension installations. Considered in architectural design, it can blend in with lighting equipment.

A directly-attached 5 m (16.4 ft) speaker cord allows the speaker to be suspended from the high ceiling. The speaker is driven on high-impedance (100 V and 70 V) line, and its input power (impedance) can be easily switched.

**Note**

Never dismantle the PE-154EN in any way even for repainting reason. Since the PE-154EN is certified in the form of complete assembly by the above-mentioned standards, it does not meet these standards if dismantled.

**3. IMPEDANCE CHANGE**

The input power (impedance) is factory-preset to 15 W (670 Ω) for 100 V line and 7.5 W (670 Ω) for 70 V line.

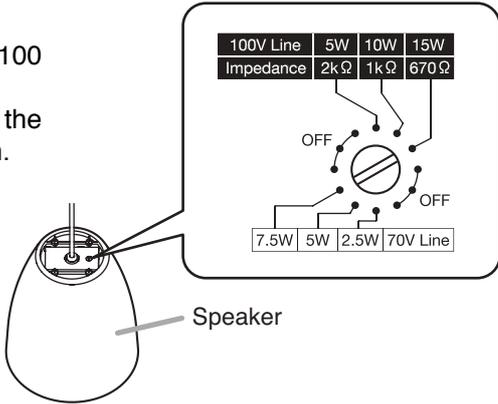
When changing this setting, use a standard screwdriver to rotate the rotary switch on the upper side of the speaker to the desired position.

Impedance	<b>670 Ω</b>	1 kΩ	2 kΩ
100 V line	<b>15 W</b>	10 W	5 W
70 V line	<b>7.5 W</b>	5 W	2.5 W

Bold figures represent factory-preset values.

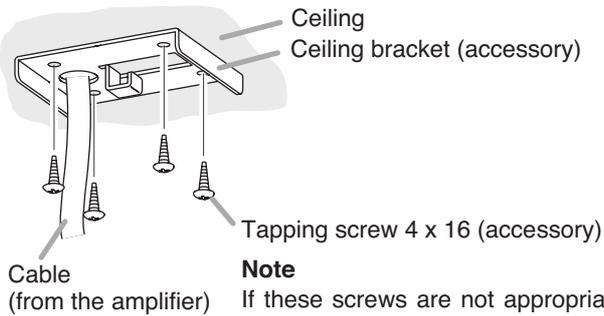
**Notes**

- Switch off the amplifier's power when changing the input power.
- No sound is output when the switch is set to the OFF position.



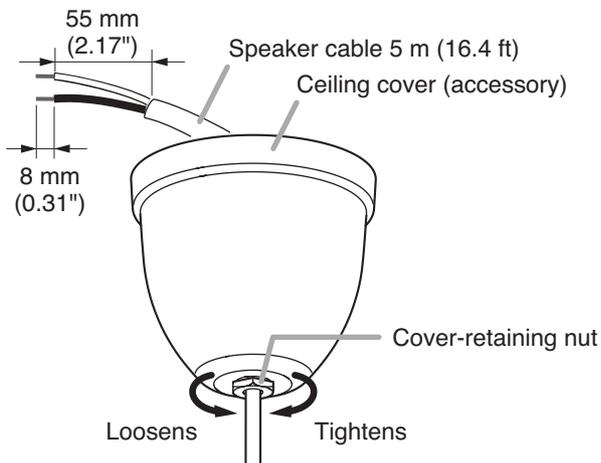
## 4. INSTALLATION

**Step 1.** Secure the ceiling bracket to the ceiling with 4 screws.  
Pull the cable through the cable hole in the bracket.

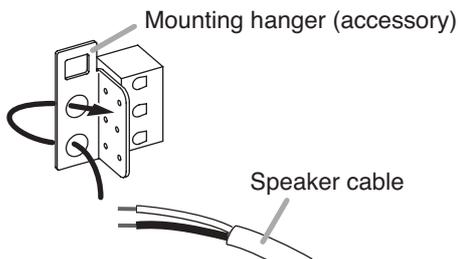


**Note**  
If these screws are not appropriate for the ceiling material, separately prepare the proper screws.

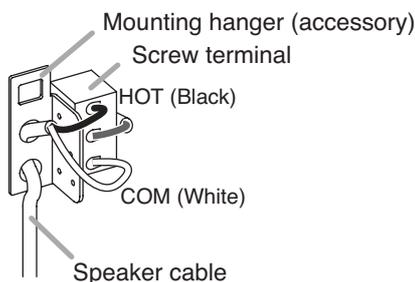
**Step 2.** Pass the speaker cable through the supplied ceiling cover, and cut the cable to the desired length.



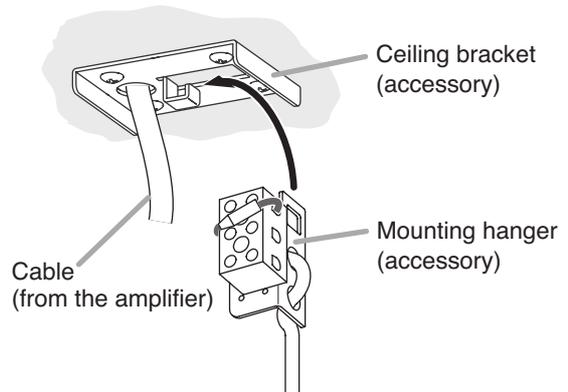
**Step 3.** Run the speaker cable through the cable holes in the mounting hanger.



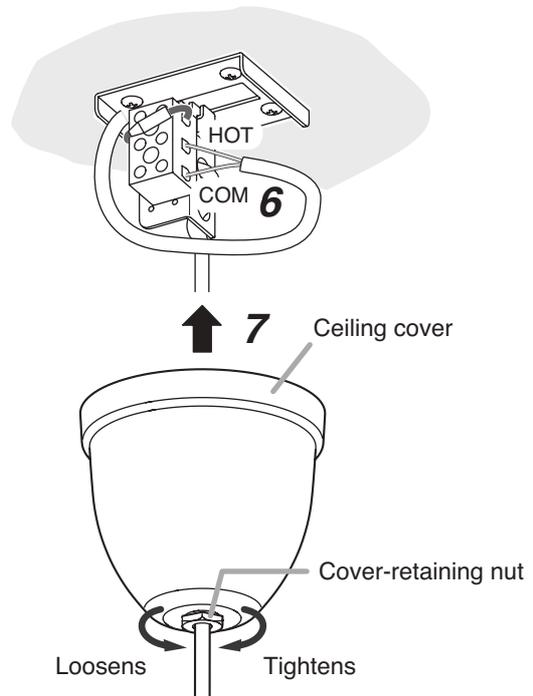
**Step 4.** Connect the speaker cable to the screw terminal.



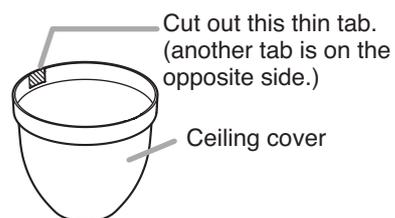
**Step 5.** Put the mounting hanger onto the ceiling bracket's hook.



**Step 6.** Connect the cable (from the amplifier) to the screw terminal.

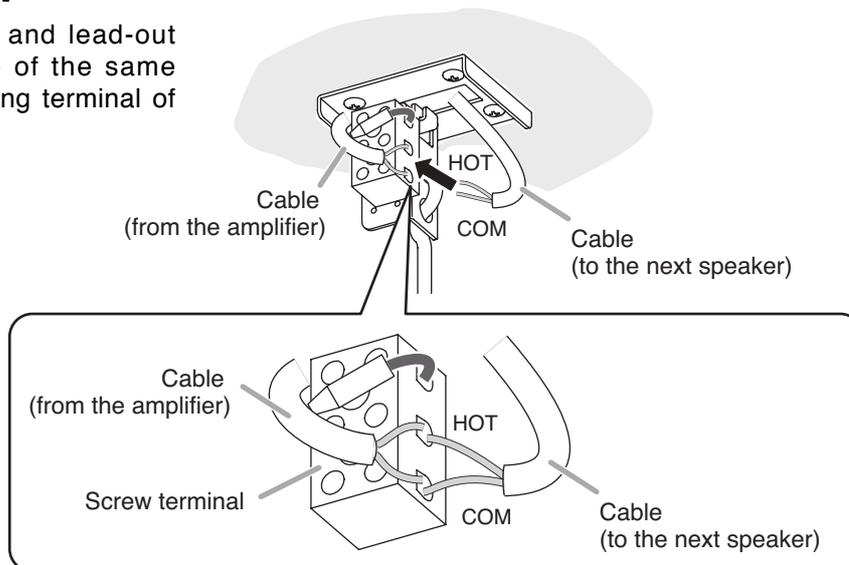


**Step 7.** Push the ceiling cover, slipped over the connected cables, onto the ceiling surface, then tighten the cover-retaining nut using a 17 mm (0.67") hex wrench.  
In the case of exposed wiring, cut out the cable entry tab on the rim of the cover, then make connections.



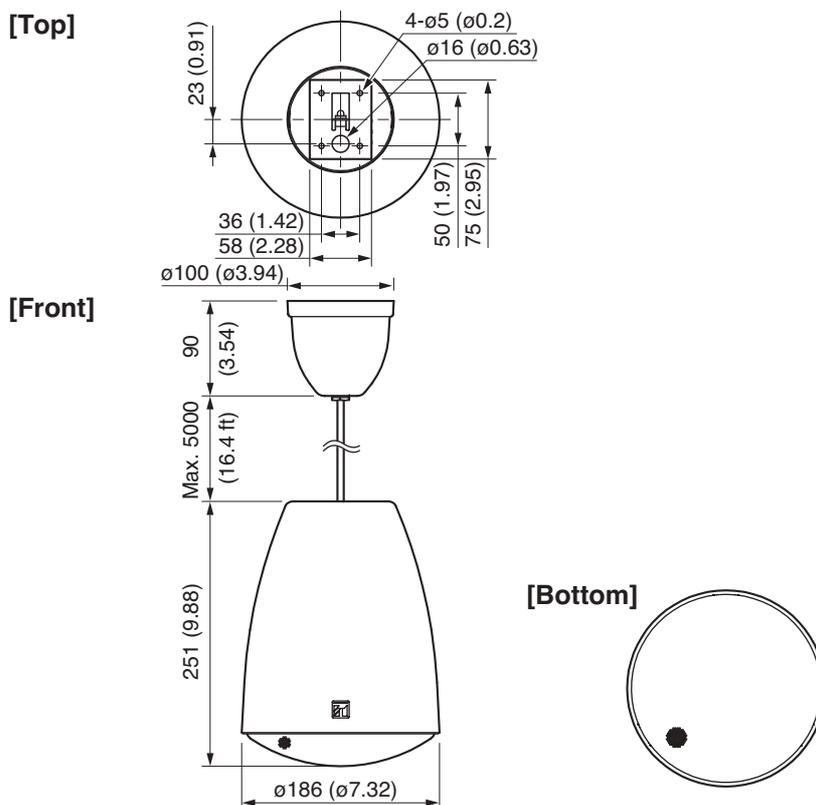
**[When making a bridge connection]**

Connect both the amplifier cable and lead-out speaker cable (for bridge wiring) of the same polarity together to the corresponding terminal of the screw terminal.

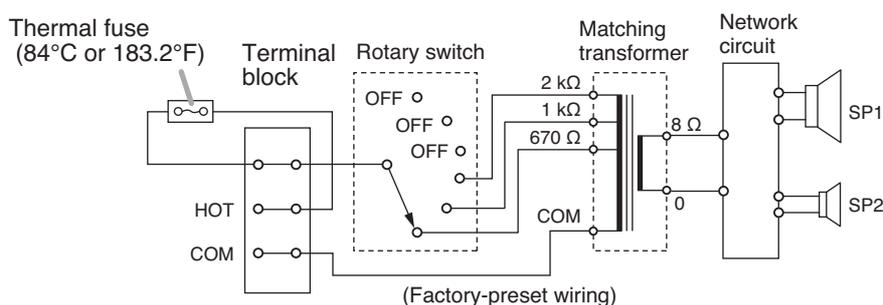


**5. DIMENSIONAL DIAGRAM**

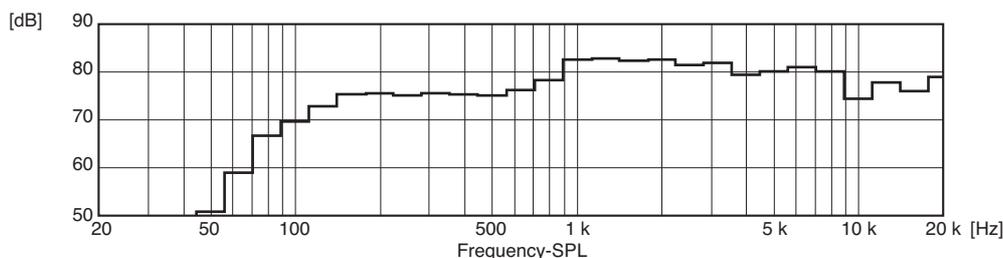
Unit: mm (in)



**6. WIRING DIAGRAM**



## 7. FREQUENCY RESPONSE (1 W, 4 m)



## 8. SPECIFICATIONS

Standards	Certified to the European Standard EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems Certification No. 0359-CPD-0105	 EN 54-24: 2008 11 0359-CPD-0105
	Certified to the International Standard ISO 7240-24: 2010 Sound system loudspeakers for fire detection and fire alarm systems	
Environment Type	Type A (Indoor applications)	
Rated Noise Power	15 W (100 V line), 7.5 W (70 V line)	
Rated Impedance	100 V line: 670 Ω (15 W), 1 kΩ (10 W), 2 kΩ (5 W) 70 V line: 670 Ω (7.5 W), 1 kΩ (5 W), 2 kΩ (2.5 W)	
Sensitivity	91 dB (1 W, 1 m at 500 Hz to 5 kHz pink noise)	
	87 dB (1 W, 1 m at 100 Hz to 10 kHz pink noise)	
	75 dB (1 W, 4 m at 100 Hz to 10 kHz pink noise)	
Max. SPL	99 dB (15 W, 1 m at 100 Hz to 10 kHz pink noise)	
	87 dB (15 W, 4 m at 100 Hz to 10 kHz pink noise)	
Frequency Response	70 Hz – 20 kHz	
Coverage Angle (–6 dB)	Horizontal and Vertical: 360° (500 Hz), 170° (1 kHz), 90° (2 kHz), 70° (4 kHz)	
Speaker Component	Low frequency: 12 cm (5") cone-type High frequency: 2.5 cm (1") balanced dome tweeter	
Operating Temperature	–10 °C to +50 °C (14 °F to 122 °F)	
Cable Connection	Screw terminal (Steatite) x 1, can be bridge-connected	
Speaker Cable	2-core cable, 5 m (16.4 ft)	
Applicable Cable Size	Outer diameter: ø6.5 – ø12.5 mm	
	Conductor: Solid wire or 7-core wire	
	No bridge connection: 0.8 – 10 mm <sup>2</sup> (AWG 18 – 7) for solid wire, 0.8 – 8 mm <sup>2</sup> (AWG 18 – 8) for 7-core wire	
	Bridge connection : 0.8 – 2.5 mm <sup>2</sup> (AWG 18 – 13) for solid wire, 0.8 – 1.5 mm <sup>2</sup> (AWG 18 – 15) for 7-core wire	
Finish	Enclosure: HIPS resin, off-white (RAL 9010 or equivalent color)	
	Grille: Surface-treated steel plate net, off-white (RAL 9010 or equivalent color)	
Dimensions	ø186 x 251 (h) mm (ø7.32" x 9.88") (speaker only)	
Weight	2.1 kg (4.63 lb) (speaker only)	
Accessories	Ceiling bracket ..... 1, Mounting hanger ..... 1, Ceiling cover ..... 1, Tapping screw 4 x 16 ..... 4	

### Notes

- The design and specifications are subject to change without notice for improvement.
- The Specifications data was measured in an anechoic chamber, according to EN 54-24.
- Reference axis: Axis is on the center of grille surface and perpendicular to the grille surface.
- Reference plane: Plane is on the grille surface and perpendicular to the reference axis.
- Horizontal plane: Plane is containing the reference axis and perpendicular to the reference plane.